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Amendment to the Claims:

1. (currently amended) A medical imaging apparatus, comprising:
a plurality of detectors for acquiring image data of one or more ~~objects~~
patients simultaneously;
a gantry for positioning the plurality of detector means about one or more
5 ~~objects~~ patients;
an electronic controller and data acquisition system for configuring and
controlling the operation of the plurality of detectors in a plurality of modes, a first
mode being that the plurality of detectors acquires image data of a first ~~object~~ patient,
and a second mode being that the plurality of detectors acquires image data of a
10 plurality of ~~objects~~ patients simultaneously.
2. (currently amended) The medical imaging apparatus of Claim 1,
wherein the gantry suspends the first detector and the second detector from above the
~~object~~ patient.
3. (original) The medical imaging apparatus of Claim 1, wherein the
gantry suspends the first detector from a first support arm and the gantry suspends the
second detector from a second support arm.
4. (original) The medical imaging apparatus of Claim 1, wherein the
gantry suspends the first detector from a first support arm and the gantry suspends the
second detector from a second support arm; wherein the gantry is configured to
position the first support arm along a first longitudinal axis and a first horizontal axis,
5 the first horizontal axis being perpendicular to the first longitudinal axis; the gantry is
able to position the second support arm along a second longitudinal axis and a second
horizontal axis, the second horizontal axis being perpendicular to the second
longitudinal axis; the first support arm is configured to position the first detector
along a first vertical axis being perpendicular to the plane formed by the first
10 longitudinal axis and the first horizontal axis; and the second support arm is
configured to position the second detector along a second vertical axis being

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perpendicular to the plane formed by the second longitudinal axis and the second horizontal axis.

5. (original) The medical imaging apparatus of Claim 1, wherein the electronic controller and data acquisition system comprise a graphical user interface.

6. (currently amended) The medical imaging apparatus of Claim 1, wherein the electronic controller and data acquisition system comprise graphical user interface capable of in at least one of a full-screen mode displaying information regarding one of the first object patient and the second object patient and a split-screen mode simultaneously displaying information regarding the first object patient and the second object patient.

7. (currently amended) A medical imaging apparatus, comprising:
a first detector for acquiring image data of a first object patient;
a second detector for acquiring image data of at least one of the first object patient and a second object patient;
5 a gantry coupled to the first detector and the second detector for positioning the first detector and the second detector at a plurality of positions about one or more axes for acquisition of image data, wherein the gantry is able to position the first detector and

the second detector such that the first detector may acquire image data of
10 the first object patient simultaneously as the second detector acquires image data of the second object patient, and wherein the gantry is able to position the first detector and the second detector such that the first detector and the second detector may acquire image data of the first object patient; and

an electronic controller and data acquisition system for configuring and
15 controlling the operation of the first detector and the second detector in a plurality of modes, a first mode being that at least one of the first detector and the second detector acquires image data of a first object patient, and a second mode being that the first detector and the second detector acquire image data of a plurality of objects patients simultaneously.

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8. (currently amended) The medical imaging apparatus of Claim 7, wherein the gantry suspends the first detector and the second detector from above the object patient.

9. (original) The medical imaging apparatus of Claim 7, wherein the gantry suspends the first detector from a first support arm and the gantry suspends the second detector from a second support arm.

10. (original) The medical imaging apparatus of Claim 7, wherein the electronic controller and data acquisition means comprise a graphical user interface.

11. (currently amended) The medical imaging apparatus of Claim 7, wherein the electronic controller and data acquisition means comprise graphical user interface capable of in at least one of a full-screen mode displaying information regarding one of the first object patient and the second object patient and a split-screen mode simultaneously displaying information regarding the first object patient and the second object patient.

12. (currently amended) A medical imaging apparatus, comprising:
a first detector means for acquiring image data of a first-object;
a second detector means for one of acquiring image data of at least one of the first object in coordination with the first detector and acquiring image data of a
5 second object independent of the first detector, the second object being separate and
independent from the first object;

a gantry means for positioning the first detector and the second detector at a plurality of positions about one or more axes for acquisition of image data;

an electronic controller and data acquisition means coupled to the first
10 detector and the second detector for configuring and collecting image data, wherein the electronic controller and data acquisition means is configured for controlling the first detector collecting image data for a first object and for controlling the second detector collecting image data for a the second object.

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13. (original) The medical imaging apparatus of Claim 12, wherein the gantry suspends the first detector and the second detector from above the object.

14. (original) The medical imaging apparatus of Claim 12, wherein the gantry suspends the first detector from a first support arm and the gantry suspends the second detector from a second support arm.

15. (original) The medical imaging apparatus of Claim 12, wherein the electronic controller and data acquisition means comprises graphical user interface.

16. (original) The medical imaging apparatus of Claim 12, wherein the electronic controller and data acquisition means comprise graphical user interface capable of in at least one of a full-screen mode displaying information regarding one of the first object and the second object and a split-screen mode simultaneously displaying information regarding the first object and the second object.

17. (currently amended) A method of using a medical imaging system to acquire image data of one or more separate objects, the method comprising the steps of:

5 determining whether image data is to be acquired in a single-planar mode or a multi-planar mode;

upon determining that image data is to be acquired in a single-planar mode, acquiring simultaneously from one or more detectors image data of a first object; and

10 upon determining that image data is to be acquired in a multi-planar mode, acquiring simultaneously from each of a plurality of detectors image data of a one of plurality of separate, discrete objects.

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18. (currently amended) A method of using a medical imaging system to acquire image data of one or more ~~objects~~ patients, the method comprising the steps of:

5 determining whether image data is to be acquired in a single-planar mode or a multi-planar mode;

upon determining that image data is to be acquired in a single-planar mode, performing the substeps of:

positioning one or more detectors about a first ~~object~~ patient for which the image data is to be acquired; and

10 acquiring from the one or more detectors image data of the first ~~object~~ patient; and

upon determining that image data is to be acquired in a multi-planar mode, performing the substeps of:

15 positioning a plurality of detectors about a plurality of ~~objects~~ patients for which image data is to be acquired; and

acquiring simultaneously from the plurality of detectors image data of the plurality of ~~objects~~ patients.

19. (currently amended) A computer program product for acquiring image data of one or more ~~objects~~ patients, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

5 computer program code for determining whether image data is to be acquired in a single-planar mode or a multi-planar mode;

computer program code for, upon determining that image data is to be acquired in a single-planar mode, acquiring from the one or more detectors image data of a first ~~object~~ patient; and

10 computer program code for, upon determining that image data is to be acquired in a multi-planar mode, acquiring simultaneously from a plurality of detectors image data of a plurality of ~~objects~~ patients.

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20. (currently amended) A computer program product for simultaneously acquiring image data of one or more separate and displaced objects, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

5 computer program code for determining whether image data is to be acquired in a single-planar mode or a multi-planar mode;

computer program code for, upon determining that image data is to be acquired in a single-planar mode, configuring one or more of a plurality of detectors to acquire image data of a first one of the objects and acquiring from the one or more
10 detectors image data of the first object; and

computer program code for, upon determining that image data is to be acquired in a multi-planar mode, configuring a plurality of detectors to each acquire image data of a different one of the objects ~~plurality of patients~~ and acquiring simultaneously from each of the plurality of detectors image data of one of the
15 ~~plurality of~~ objects.